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SCIENCE

As Brazil Defends Its Bounty, Rules Ensnare Scientists

By LARRY ROHTER AUG. 28, 2007

RIO DE JANEIRO — Marc van Roosmalen is a world-renowned primatologist whose research in the Amazon has led to the discovery of five species of monkeys and a new primate genus. But precisely because of that work, Dr. van Roosmalen was recently sentenced to nearly 16 years in prison and jailed in Manaus, Brazil.

Earlier in August, his lawyers managed to get him freed while they appeal his conviction on charges stemming from an investigation into alleged biopiracy. But scientists here and abroad are outraged, and they describe the case as only the most glaring example of laws and government policies they say are xenophobic and increasingly stifling scientific inquiry.

“Research needs to be stimulated, not criminalized,” said Enio Candotti, a physicist who has been the president of the Brazilian Society for the Progress of Science, the country’s leading scientific body, for the last four years. “Instead, we have a situation in which overzealous bureaucrats consider everyone guilty unless they can prove their innocence.”

At a biologists’ conference in Mexico last month, 287 scientists from 30 countries signed a petition saying that the jailing of Dr. van Roosmalen was indicative of a trend of governmental repression of scientists in Brazil.”

The treatment of him, they warned, is unduly harsh and is “already discouraging biological research in Brazil, both by Brazilian scientists and by potential international donors.”

Brazil’s government officials say they have no vendetta against the scientists and are merely trying to protect the nation’s natural and genetic patrimony; they also declined to talk about the van Roosmalen case.

Fears of biopiracy, loosely defined as any unauthorized acquisition or transport of genetic material or live flora and fauna, are deep and longstanding in Brazil. Nearly a century ago, for example, the Amazon rubber boom collapsed after Sir Henry Wickham, a British botanist and explorer, spirited rubber seeds out of Brazil and sent them to colonies in Ceylon and Malaya (now Sri Lanka and Malaysia), which quickly dominated the international market.

In the 1970s, the Squibb pharmaceutical company used venom from the Brazilian arrowhead viper to help develop captopril, used to treat hypertension and congestive heart failure, without payment of the royalties Brazilians think are due them. And more recently, Brazilian Indian tribes have complained that samples of their blood, taken under circumstances they say were unethical, were being used in genetic research around the world.

Brazil has in recent years passed legislation to curb such practices. National sentiment favors the laws, but scientists complain that they go too far, are too vague, confer too much power on authorities who have no scientific knowledge and have created a presumption that every researcher is engaged in biopiracy.

“We wanted to protect the environment and traditional knowledge, but the legislation is so restrictive that it has given rise to abuses and a lack of common sense,” Dr. Candotti said. “The result is paranoia and a disaster for science. There are Talibans in the government who say they are defending the national interest, but they end up weakening and hurting it.”

To engage in field research in Brazil, authorization from as many as five government agencies may be required. Though the law mandates a response within 90 days, scientists say approval may be delayed for up to two years because the

agencies lack budget and staff, particularly employees with knowledge of the scientific method.

That has led to a situation in which many researchers often go ahead with their work on the assumption that it will eventually be approved. Dr. Candotti estimated that up to half the field research conducted in Brazil may be technically irregular, but the jailing of Dr. van Roosmalen, whom Time magazine designated one of its "Heroes for the Planet" in 2000 because of his work in the Amazon, has caused many researchers to pause and reassess their own situations.

"If they can get him on trumped-up charges, they can get any of us," said one scientist based in Manaus, who spoke on the condition that he not be named because of fear that future research projects will be rejected. "Everyone bends the rules, because they are so onerous that you would never be able to get any work done if you followed them to the letter."

Some foreign scientists also said that because of biopiracy fears here, they no longer consider Brazil to be a reliable research partner. As examples, they spoke of instances in which samples of research material originally gathered in Brazil and then taken abroad had been seized by government authorities and even incinerated when sent back to Brazil on loan to scientists here.

Foreigners are not the only ones complaining. Brazilian scientists also report problems in getting research proposals approved and say they are enduring unreasonable limitations on their work and having material confiscated.

In one recent case, a researcher at the Butantan Institute in São Paulo wanted to study a species of Amazon butterfly, potentially of pharmaceutical interest because its larva secretes a toxic goo that causes numbness, paralysis and may contribute to arthritis. Authorization was delayed for months, and when it finally arrived, it was for only one day — in February, weeks after the larvae have finished their metamorphosis.

In another instance, a researcher was investigated after he mailed worm tissue slides to a colleague in Germany instead of sending the genetic data by e-mail. Similarly, an ornithologist authorized to keep rare birds was detained because he did

not have a permit to take the birds from one Amazon research facility to another, and a researcher's request to move an ant colony was denied, supposedly because it would cause stress to the insects.

The National Council for Scientific and Technological Development, the main government agency dealing with scientific research in Brazil, declined to make any of its officials available for interviews about the van Roosmalen case or other scientists' complaints. The agency's press office initially suggested an interview with the director, Marco Antonio Zago, but retracted the offer after seeing a list of questions, and issued a written statement in his name instead.

"There is no ground to believe that the Brazilian government would try to intimidate the scientific community, either in the Amazon or in other regions of the country," the statement said. The federal government is merely "taking measures to protect the country's sovereignty and biodiversity on the basis of laws promulgated by the parliament."

At the National Defense Council, another agency that in recent years has become involved in the approval of some research requests as a result of changes in the law, an official, Renata Furtado, acknowledged that there had been problems but said scientists themselves were mostly to blame. They often do not supply enough detailed information on research requests, she said, they "don't compromise," they resist supervision and they want to work in sensitive border areas.

"We are trying to make the process more democratic, more open to dialogue, by inviting in all interested parties, including the military and indigenous groups, and when that happens, naturally you have people for and against" a proposal, she said. "Legalized scientific research by foreigners in Brazil is doing quite well, thank you, but we need to open this process even more so that real researchers are encouraged to come and not just backpackers."

Lawyers for Dr. van Roosmalen, a naturalized Brazilian citizen who was born in the Netherlands, say he is in large part a victim of the xenophobic sentiment attached to fears of biopiracy. They note that he was tried as a foreigner, initially denied habeas corpus and the right to appeal the verdict against him, given a near-

maximum sentence despite being a first-time offender and sent to a notoriously harsh prison.

"This trial was conducted in a completely irregular fashion, and on trumped-up charges," said Miguel Barrella, one of Dr. van Roosmalen's lawyers. "They couldn't prove the biopiracy accusations, so they concocted a series of spurious accusations, such as the unauthorized lodging of monkeys at his home, where he has a primate rehabilitation center."

Edmilson da Costa Barreiros, the federal prosecutor in Manaus who argued the case against Dr. van Roosmalen, did not respond to requests for comment. But an article in A Crítica, the main newspaper there, quoted him as having urged that the scientist be made to "serve as an example so that others will see that you cannot do as you please at a public institution."

Over the years, Dr. van Roosmalen has clashed frequently with Brazilian authorities, including his superiors at the government-supported National Institute for Amazon Research, or I.N.P.A., in Manaus. He was once detained during a boat trip for transporting monkeys without a permit, and when he sent monkey scat abroad for analysis at a laboratory, he also ran afoul of the law. Eventually he was fired from I.N.P.A., where fellow scientists say the recognition given him by Time magazine stirred resentment among desk-bound administrators.

To raise money to continue his research, he made an offer on his Web site to name the species of monkeys he had discovered after benefactors, who included Prince Bernhard of the Netherlands. That has been a practice common since Linnaeus created the modern system of biological classification in the 18th century and kings and dukes financed expeditions in return for taxonomic immortality. But Brazilian authorities considered it illegal, and it formed the basis of one of the charges of "improper appropriation" of which Dr. van Roosmalen was convicted.

Even Dr. van Roosmalen's most ardent defenders have said he is often stubborn, cantankerous and not at all deferential to authority. But Wim Veen, a former classmate who is one of the founders of Help Marc van Roosmalen, a defense committee and fund-set up in the Netherlands, said that such flaws were not important when compared with the larger issues at stake.

"If there is anyone in Brazil who is defending the Amazon, it is Marc," Mr. Veen said, "which makes it particularly cynical to see him being made the victim of a legislation meant not for him but those who want to extract the riches of the tropical rain forest for their own material benefit."

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